Amendments to the Specification

Please replace the paragraph at page 28, second full paragraph, with the following:

[00089] The envelope of the intensity signal obtained from a phase grating 31, 32 extending in the x-direction provides the capture position of the phase mark 10 in the y-direction. In a similar manner, the capture position of a phase mark 10 extending in the y-direction will provide a capture position in the x-direction. When phase marks 10 are present on the wafer in both the x- and y-direction in a known configuration (i.e. with known mutual offsets 35, 36, see the example shown in figure 9 with two phase gratings 31, 32 extending in the x-direction and two phase gratings 33, 34 extending in the y-direction), the found capture positions in the x- and y-direction can be used as expected positions in a normal coarse alignment procedure (e.g. using a combination of 8.0 μm and 8.8 μm phase gratings as described above). Sometimes, it may still be desirable to perform a coarse alignment. For example, the accuracy of the diagonal scan procedure (the envelope signal), e.g. 30 μm dependent on the width of the phase grating marks 10 used, may be sufficient to determine the correct top in a 88 μm periodic signal (as delivered by the 8.0/8.8 μm phase grating combination discussed above), but not sufficiently accurate to determine the correct top in a 8.0 μm periodic signal.

At page 42, please replace paragraph [000129] with the following:

[000129] However, alternatively only a single intensity measurement may be used for each position along the scanning path 74, 76, which in this case runs perpendicular or under a non-zero angle to the direction of periodic variation. Thus, ~~a~~ an intensity measurement for the same phase may be obtained at each position along the scanning path 74, 76. As a result, the relative maximum among these measurements may still be characteristic for maximum amplitude. However, this approach may have a risk that an inconvenient phase is used. Therefore, it may be desirable to determine the maximum for at least two parallel scanning paths that are a quarter of a period (plus any number of full periods) apart, although it may also be possible to use any other distance unequal to an integer number of half periods.